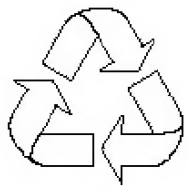
Acer CE-6430
Service Guide

Service guide files and updates are available on the CSD web; for more information, please refer to **http://csd.acer.com.tw**



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Conventions

The following conventions are used in this manual

Screen messages	Denotes actual messages that appear on screen.
Note	Gives bits and pieces of additional information related to the current topic.
Warning	Alerts you to any damage that might result from doing or not doing specific actions.
Caution	Gives precautionary measures to avoid possible hardware or software problems.
Important	Reminds you to do specific actions relevant to the accomplishment of procedures.

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Preface

Before using this information and the product it supports, please read the following general information.

1. This Service Guide provides you with all technical information relating to the BASIC CONFIGURATION decided for Acer label's Product offering. To better fit local market requirements and enhance product competitiveness, your regional office MAY have decided to extend the functionality of a machine (e.g. add-on card, modem, or extra memory capability). These LOCALIZED FEATURES will NOT be covered in this generic service guide. In such cases, please contact your regional offices or the responsible personnel/channel to provide you with further technical details.

2. Please note WHEN ORDERING FRU PARTS, you should check the most up-to-date information available on your regional web or channel. If, for whatever reason, apart number change is made, it will not be noted in the printed Service Guide. For ACER-AUTHORIZED SERVICE PROVIDERS, your Acer office may have a DIFFERENT part number code to those given in the FRU list of this printed Service Guide. You MUST use the list provided by your regional Acer office to order FRU parts for repair and service of customer machines.

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Chapter 1

System Introduction

Technical Specification

Item	Description
Image sensor	6.36 Mega pixels CCD sensor
Image resolution	<Still image> 2816 x 2112, 2272 x 1704, 1600 x 1200, 640 x 480 < Video clip> 320 x 240
LCD monitor	2.36" color TFT LCD
Image quality	Fine/Normal/Economy
Recording media	Approx. 8 MB internal memory, external memory: supports SD card (up to 1 GB)
File format	JPEG (EXIF 2.2), DCF, Motion JPEG (AVI)
Compression file format	JPEG, AVI
Lens	3 x optical zoom lens, F = 2.8 (Wide) – 4.8 (Tele) f = 5.5 mm – 16.5 mm (equivalent to 34 mm – 102 mm on a 35 mm camera)
Range of focus	Wide: Approx. 5 cm to 40 cm Tele: Approx. 35 cm to 40 cm Normal: Approx. 40 cm to infinity
Frame Rate	VGA (640 x 480): 30 frame/rate QVGA (320 x 240): 15 frame/rate
White balance	Auto, Daylight, Cloudy, Incandescent, Fluorescent
Flash effective range	Wide: 0.6 m –2.4 m (wide) Tele: 0.6 m – 1.8 m

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Item	Description
Exposure compensation	-2.0 EV ~ +2.0 EV (in 1/3 EV Increments)
Self timer	10 sec, 2 sec, 10+2 sec
ISO	Auto, 64, 100, 200
Terminal	DC input terminal, PC/AV terminal
Power supply	2 x AA (Alkaline or Ni-MH rechargeable) batteries AC-DC Power Adapter (3V/2.5A)
Dimension (W x H x D)	Approx. 88.5 x 60 x 28 mm
Weight	Approx. 130 g (without the battery and SD card)

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Chapter 2

Firmware Upgrade

Upgrading Procedure

To update this camera firmware, you will need to have

1. The new firmware file.
2. One SD card.
3. One card reader.

Please follow the steps below to perform the update process:

1. Prepare a formatted and empty SD card.
2. Insert a SD card to the card reader. Copy the firmware file (file name should be "ADC6370M.elf") into the SD card. Make sure the new firmware file is copied to the SD card.
3. Insert the SD card into the camera.

Image 1

4. Plug in the AC adapter or new battery into the camera.

Image 2

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5. Press "Shutter" and then Power On the camera. Wait for update process.

Image 3

6. Icon as Image 4 will show on LCD during the updating procedure.

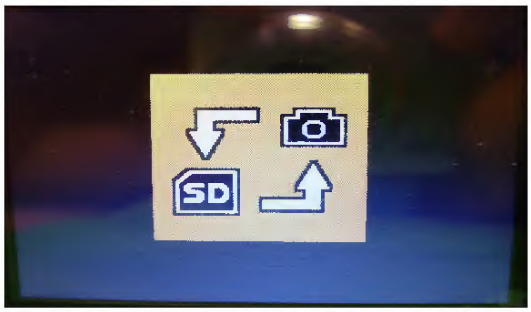

Image 4

7. "OK" will show on LCD, when update process is finished.

Image 5

8. Reformat the SD card if you want to use it again.

Note: Don't remove the power source during firmware update procedures.

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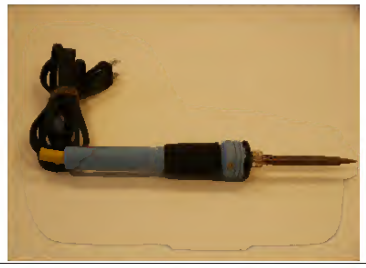
Chapter 3

Machine Disassembly and Replacement

This section provides disassembly procedures for CE-6430 DSC. Before you begin any of these procedures, be sure to turn off the power, computer system, and other attached devices; then disconnect the power cable from the electronically outlet. Moreover, when you disassemble the camera, be sure to put the screws in a safe place and separate them according to grouping.

Tools Needed

Item	Photo
Screw Driver (2.0mm)	
Tweezers	
Soldering iron	

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General Information
Before You Begin

Before proceeding with the disassembly procedure, make sure that you do the following:

1. Turn off the power to the system and all peripherals.
2. Unplug the AC adapter, all power and signal cables from the system.
3. Wear Anti-static wrist strap.

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Disassembly Procedure

Please follow the steps below to perform the disassemble procedure:

1. Remove all the screws at the camera housing.
   Tools needed: Screwdriver

Image 1

2. Remove the back cover after plug off the FPC connection from MCU board.
   Tools needed: Tweezers

Image 2

3. Remove the screws marked in red to remove back cover.
   Tools needed: Tweezers, Screwdriver

Image 3

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4. Remove two screws from back cover to remove LCD panel and Switch Board.
   Tools needed: Screw drivers, Tweezers

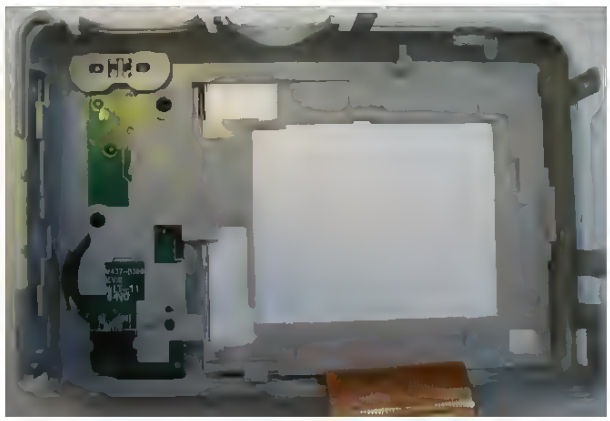

Image 4

5. Remove screw in red circle to remove the IO board.
   Tools needed: Tweezers, Screwdriver

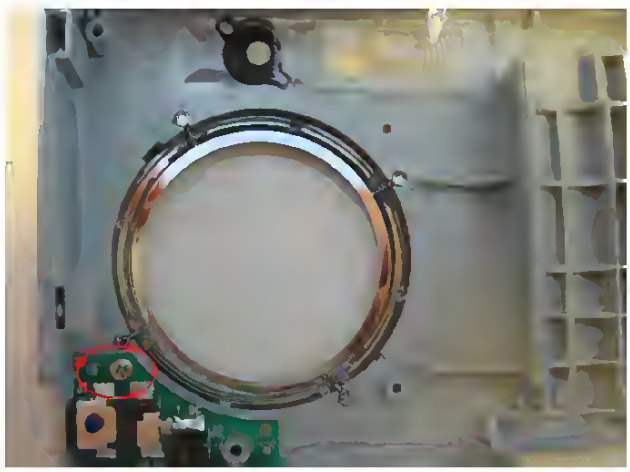

Image 5

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6. Remove the screws (marked in Red), FPC connection (marked in Purple), and joints (marked in Blue) to remove tbe MCU board. Remove MCU Board from the camera. Notice there are two joints at the backside of MCU board. Desolder the joints to remove MCU board. (Image 7)
   Tools needed: Tweezers, Soldering Iron, Screwdriver

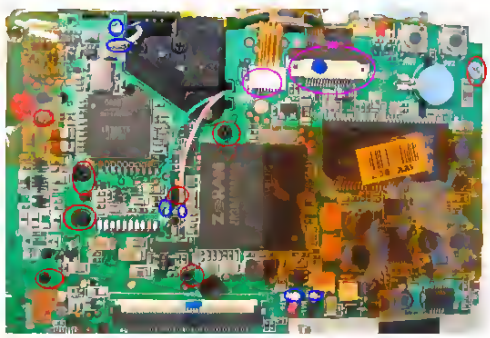

Image 6

Image 7

7. Remove the MCU board from the camera.

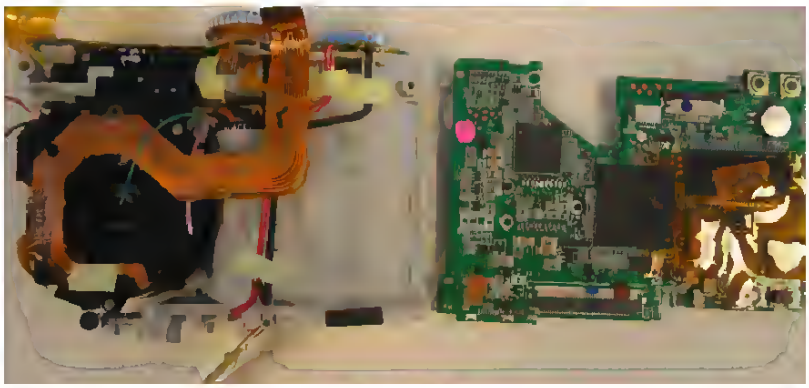

Image 8

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Chapter 4

Troubleshooting

This chapter provides technicians and people who have an electronic background a primary description about maintaining the product. Moreover, you can get the appropriate operation to solve some complicated problems of component repairing and professional problems.

The troubleshooting section focuses on below items:

1. Function test
2. Operation Function Troubleshooting

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Function Test

TOOLS / EQUIPMENT

SD card*2, TV, AC adapter, lens-wiping paper, speaker
Static electricity preventing gloves, flowers, accessory, computer

Operation Description

Item	Operation Description	Remark
Part 1		
1	Insert the battery from the positive side, SD card and power on, check if the shutter opens wholly, enter into the capture mode, LCD displays the correct memory in accordance with the actual one.	
2	Conduct the drop test twice of the camera in 45°, (twice from both sides, notice that the appearance cannot be scratched), the camera cannot has any abnormity, such as power cutting off, card springing off, and etc.	
3	Press the Up cross button (self-timer mode), TFT-LCD displays self-timer signal and time, take a picture of flowers in flash-off mode for 2s.	
4	Press W/T to move the lens, check the lens and the lens tube's appearance; confirm if the lens has any abnormity.	
5	Take a view towards the far and vicinity in capture mode, check if the LCD is clear, display is biased; check the LCD noise towards darkness, if the bad dots accords the specification, check if LCD is color deviation, if the brightness is normal.	
	The method for checking TFT-LCD bad dots and judging standard are as follows: In the center (1/2 long * 1/2 wide): no bright dots, only two dark dots and the distance between them must exceed more than 4mm; In the periphery: two bright dots, three dark dots. When checking, check the bright dots in black background; check the dark dots in white background.	

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Item	Operation Description	Remark
6	Press S1 to focus to vicinity (about 1.0m) and far (about 2.5m) in T mode, confirm if can focus ok, that is the focus frame displays green, that the focus frame displaying red is NG.	
7	Select SETUP mode, select LCD BRIGHTNESS and press OK button to enter into LCD brightness adjustment menu, press left-right button to adjust LCD brightness to confirm if LCD brightness is changing regularly. Check the F/W version.	
8	In the above process, it shall be confirmed that the lens moving is normal.	
Part 2		
1	Insert 3.0V AC Adapter, power on.	
2	Press the OK button for four times; change the picture size to 640. Confirm the TFT-LCD operation is normal and the buttons' operation is normal.	
3	Shift to the landscape mode, take a picture of flowers in Wide mode, and shift to the night mode, tale a picture towards darkness under the desk in red-eye reduction mode. The pre-flash and the main flash shall be distinguished from each clearly.	
4	Shift the mode dial for one circle, confirm if it shifts smoothly, and each mode displayed in the left corner of LCD is normal.	
5	Shift to record mode, LCD displays record image, press SHUTTER to begin recording, use the sound box to catch the sound, stop recording after over 3s.	
6	Connect TV to press Playback button entering playback mode, confirm the images. There cannot be any bad images and the pictures cannot be color deviation. Select the Movie file, press OK button to enter into playback mode, the sound cannot be any normal or too low; press WIDE button, LCD displays nine-thumbnail images, selecting the direction button can select the images. Pull off the TV cable. There cannot be any abnormity of the above operation.	

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7	Select the SETUP mode, choose the biggest sound of button pressing, and confirm the BEEP sound. Enter into FORMAT menu, conduct the Format action, reset the camera's system and reset the number, confirm if the language and format are correct (set to be correct when they are wrong). After all the above are ok, check the lens appearance. Press DEL button to confirm if there is any picture. Power off; confirm if the lens draws back. Pull off the power cable. Notice: there cannot be any intervene among adapter
8	Pick up 5PCS from each section, trigger to take 30 pictures in forced-flash mode, confirm if there is any abnormity, such as miss flash, triggering to hang on, power off automatically, and etc.

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Operation Function Troubleshooting

Item	NG point	NG Analyzing solution
Charging and Triggering system	Fail to charge	1. Check the F/W version, update F/W again; 2. Check if the signal of STROBE_CHG on MCU board has been output; 3. Check if U1, T1, Q4 and big capacitor of FLASH/B are ok; 4. Check if the Charge_C signal on FLASH/B is normal; 5. Check if the connector J3 on MCU board is soldered and connects well.
	Charging is normal but no trigger	1. Check if the flash mode setting is correct; 2. Check if the triggered signal STROBE on MCU board has been sent off; 3. Check if the lampshade connecting cable is cold soldered or open circuit; 4. Check if U1, D2 and Q4 on FLASH/B are ok; 5. Check if the triggering choke of FLASH/B is ok; 6. Check if the connector J2 on MCU board is soldered or connects well
Lens System	Blurred Image	1. Check if the analysis of lens unit has reached the specification; 2. Check the F/W version; update F/W again.
	Lens AF not moving	1. Check if the lens unit, power +5.0V and +3.3V are ok; 2. Check the F/W version, update F/W again; 3. Confirm if the output control signal of MCU board is normal; 4. Check if the output signal AFSM2A-, AFSM3A+ and AFSM3B+ of MCU U601 are normal; 5. Check if the solder of the connector parts are ok.
	Lens not moving	1. Check if the lens unit, power U802 +5.0V and +3.3V are ok; 2. Check the F/W version, update F/W again; 3. Check the output signal Shutter_M1 and Shutter_M2 of DSP are normal; 4. Check the output signal SHD1 and SHD2 are normal.

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Item	NG point	NG Analyzing solution
	Aperture not moving	1. Check if the lens unit, power U802 +5.0V and +3.3V are ok; 2. Check F/W version and update F/W again; 3. Confirm the output control signal of MCU board is normal 4. Check if the output signal ISM1 and ISM2 of U601 are normal.
Power system	Power on failure	1. Check if VP&+3.3VS power are normal, and PDETECT signal is in the specification (>1.24V); 2. Test if there are PWRON input and PWR_CTRL signal output; 3. Confirm if each power voltage of the camera is normal; 4. Confirm if there is big electric current in the process of power on; 5. Update F/W again; 6. Confirm if lens is ok, and the DSP signal of lens part's feedback; 7. Confirm if U701 (NAND FLASH), U201 (DDR) and its periphery circuit is ok; 8. Download the power-on F/W; 9. Check if the crystals Y1 and Y2 on MCU/B are ok.
Display and Image system	Fail to capture: 1. LCD displays "Memory Full"	1>. The camera memory and SD card are full; 2>. Check the F/W version and update F/W again.
	2. No reaction while press capture button	1>. Check if SW1 and SW3 are ok; 2>. Check F/W version and update F/W again.
	3. Fail to store images	1>. Confirm if the SD card used is ok; 2>. Check if MCU/B U701 (NAND FLASH) is ok; 3>. Check the F/W version, update F/W again; 4>. Check if SD card is cold soldered.

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Item	NG point	NG Analyzing solution
Display and Image system	TFT-LCD white image	1. Check the +15.0V and –8V of power suppliers, CCD parts are normal, LCD power suppliers +12V and 3.3VD are normal; 2. Check if the connection between LCD and MCU board is ok; 3. Check the F/W version, update F/W again; 4. Check if the camera will hang on when operation.
	TFT-LCD black / no image	1. Check the +15.0V and –8V of power suppliers, CCD parts are normal, LCD power suppliers +12V and 3.3VD are normal; 2. Check if the LCD unit is ok; 3. Check if CCD solder is cold soldered, miss soldered or short circuit; 4. Check if the connector between LCD and MCU board is ok.
	TFT-LCD noise	1>. Confirm if CCD solder is cold soldered, short circuit or wrong soldered; 2>. Check F/W version, update F/W again; 3>. Check the +15.0V and –8V of power suppliers, CCD parts are normal, LCD power suppliers +12V and 3.3VD are normal; 4>. Confirm if the LCD is ok; 5>. Confirm U302, U101 and the periphery circuit on MCU board are ok; 6>. Check if the connector between LCD and MCU board is ok.
	Fail to update	1>. Check if SD card is cold soldered; 2>. Check if MCU/B U701 (NAND FLASH) is ok; 3>. Check if SD card is ok, and the file format in it is correct.
	No reaction when press the buttons	1>. Confirm if each button unit is ok; 2>. Check if the connector J1 of SW board and MCU board is cold soldered or short circuit; 3>. Check if each resistance value of each resistance is correct.

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Display and Image system	Noise when playback the record/ no sound	1>. Check the F/W version, update F/W again; 2>. Playback the record to confirm if it is ok, in order to eliminate the speaker circuit's issue; 3>. Check if the Microphone unit is ok and connects well; 4>. Check if the MIC record part's circuit has no wrong parts and is soldered well; 5>. Check if the TV connector is soldered well (play with TV).
Communication system	USB connecting failure	1>. Check if USB connector is cold soldered or miss soldered; 2>. Check if USB connector is OK; 3>. Check if Y1 crystal frequency of MCU/B is 12MHz; 4>. Check the F/W version, update F/W again; 5>. Check the USB_DET signal on MCU board is normal.
	TV no images	1>. Check if TV connector is ok, the AV_DET signal on MCU board is normal; 2>. Check if Y1 crystal frequency of MCU/B is 12MHz; 3>. Check the F/W version, and update F/W again.

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Chapter 5

FRU (Field Replaceable Unit) List

This chapter gives you FRU (Field Replaceable Unit) listing in global configuration of CE-6430. Refer to this chapter whenever ordering for parts to repair or for RMA (Return Merchandise Authorization). Please note that WHEN ORDERING FRU PARTS, you should check the most up-to-date information available on your regional web or channel. For whatever reasons a part number change is made, it will not be noted on the printed Service Guide. For Acer AUTHORIZED SERVICE PROVIDERS, Acer office may have a DIFFERENT part number code from those given in the FRU list of this printed Service Guide. You MUST use the local FRU list provided by your regional Acer office to order FRU parts for repair and service of customer machines.

NOTE: To scrap or to return the defective parts, you should follow the local government ordinance or regulations on how to dispose it properly, or follow the rules set by your regional Acer office on how to return it.

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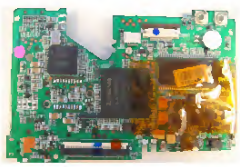
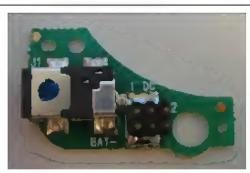
FRU List

No	Photo	Part Name	P/N
1		Front Cover ASY	9FD44-4200
2		Rear Cover ASY	9FD44-4400 (LCD, SWITCH Board Included)
3		LTPS-LCD	02092-0027-00
4		MCU PCB ASY	9W347-0100
5		Switch Board ASY	9W447-3100
6		1O Board ASY	9W447-6100
7		Battery Cover	9FD34-4600-99

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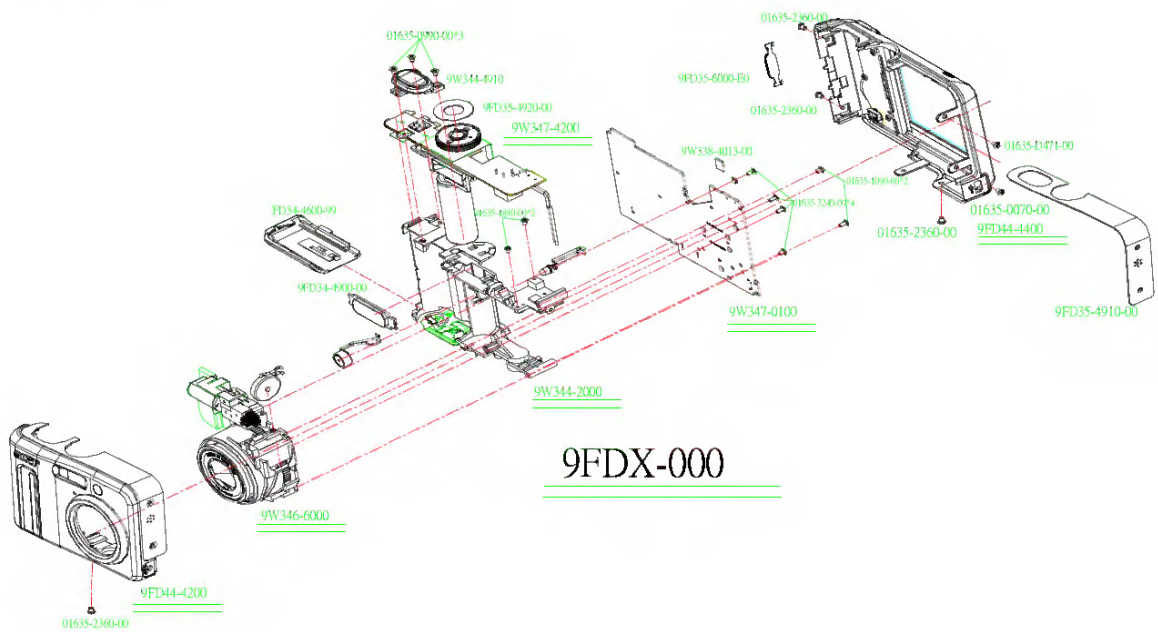
Exploded Overview



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